IL 12-2001-002
In Reply Refer To: 122

January 25, 2001

RESEARCH AND DEVELOPMENT LETTER

TARGETED SOLICITATION FOR PROPOSALS IN SELECTED AREAS OF EMPHASIS IN REHABILITATION SCIENCE AND TECHNOLOGY

1. This Information Letter announces the opportunity for Department of Veterans Affairs (VA) medical facilities to submit proposals with focus on research in high priority areas relevant to the rehabilitation needs of veterans.

2. The Rehabilitation Research and Development Service encourages VA researchers to:

a. apply emerging technologies to caring for veterans with disabilities and,

b. work in "orphan" areas which are of high relevance to veterans.

2. Background

a. The purpose of this announcement is to invite proposals in targeted areas of emphasis. Proposals should be within the Service's identified priorities of Prosthetics, Orthotics, and Orthopedic Rehabilitation; Neurological Dysfunction and SCI Restoration/Rehabilitation; Geriatric Rehabilitation; Visual and Hearing Impairment Rehabilitation; Rehabilitation Engineering; and Rehabilitation Outcomes.

b. A special review will be held in April 2001 to review proposals received by April 2, 2001. Subsequent proposals will be reviewed within the framework of Rehabilitation Research and Development's regular investigator initiated review program.

3. Research Foci

a. **Robotics:** The use of robotics in medicine and patient care presents endless possibilities. In the delivery of rehabilitation therapies, robotic technology may offer the required precise pressure and necessary repetitive range of motion to optimize recovery. In addition, objective measurement of outcome and progress can lead to enhanced outcome assessments of various strategies. Finally, robotic technology, successfully harnessed, may prove a reliable form of assistive technology.

b. **Prosthetics:** Although a small percentage of the nation's patient population, veterans with amputations receive high priority in VA clinical care and research. Studies which assess and validate improved prosthetic and amputation management for:

(1) amputation caused by trauma, both recent and as a person ages and,

(2) amputation in later life resulting from vascular disease and development of improved prostheses, materials, and fit, especially for upper-extremity amputation, to enhance care for these populations are high priorities for VA RR&D. Validation of fabrication techniques, such

as CAD/CAM, to assess quality and cost effectiveness and enhancement with creative imaging systems are sought.

c. **Low Vision:** Promoting independence for veterans who are blind or have low vision, either caused by injury during service or as a consequence of aging, is a highly relevant area for VA research. Studies which explore medical enhancements coupled with rehabilitation strategies are encouraged. Development of new technologies such as navigating systems or sight manipulation to serve as assistive technologies for sight impaired are also of high priority.

d. **Rehabilitation Services:** It is critical for the rehabilitation community of clinicians to demonstrate best practices and, thereby, take steps to assure proper care in a cost cutting health care environment. Studies of interest would document achievement by:

(1) motor recovery,

(2) functional independence,

(3) social integration, and

(4) quality of life. ***Note:*** *Comparative studies of different models of comprehensive care (utilization, cost, and outcome) and development of outcome prediction models are also encouraged.*

e. **Telerehabilitation:** Telemedicine is increasingly looked to for solving issues of care in remote locales. For rehabilitation it has even more significant possibilities:

(1) even in urban areas, two blocks can present significant obstacles for a person with severe mobility issues.

(2) longer courses of therapy may be required and remote care allows for independent practice without sacrificing oversight for compliance and progress.

(3) Comparative studies of remote vs. onsite evaluations for medical complications associated with chronic impairment (wound care, prosthetic adjustments). Appropriate use and interaction has yet to be validated and many questions remain. Studies which begin to explore optimal use of this technology and validate outcomes are encouraged.

f. **Patient Friendly Tracking Systems:** Satellite and cellular technology has given way to amazing navigation systems. Adapted for rehabilitation, they stand to solve many issues for “at risk” patients. The development of patient friendly tracking systems to assist in monitoring location of patients with dementia or to monitor basic metabolic rates for patients who might otherwise require full time attendants is encouraged. Also of interest are systems which may enhance manual orientation techniques for persons who are blind. Studies which show systematic development and testing are invited.

g. **Audiology—Hearing Aid Studies:** Outcome studies which establish clinical predictors of successful hearing aid prescription are needed. Clinicians often state that fit is the most

important factor in predicting the success of patient use and restoration of function with hearing aids. The current state of the art makes fit provider dependent. New Applications for Computer Aided Design and Manufacture (CAD/CAM) could lead to system wide availability of uniformly precise, custom fit devices. The capacity for plasticity within the adult brain is an accepted concept. The impact of specific training with hearing aids, to learn to selectively "hear" sounds of specific pitch, and the neuro-imaging correlates could lead to physiologically based rehabilitation approaches in audiology.

h. **Innovative applications of technologies to rehabilitation:** Existing technologies such as virtual reality may be applied to rehabilitate certain neurologic conditions. For instance new imaging techniques may also enhance current computer assisted design of prosthetics.

4. Proposal Preparation and Submission

a. Proposals should be written in compliance with Rehabilitation Research and Development Guidelines for Researchers found on our web site at www.vard.org . Proposed studies may be up to three years in duration, with costs capped at $250,000 per year. Final proposals are due April 2, 2001.

b. No letter of intent is required for this solicitation, however applicants are asked forward a notification of intent to apply by February 7, 2001. Notification will be used to make preliminary reviewer assignments and must include:

(1) Name of VA Facility.

(2) Principal Investigator, with investigator's VA status.

(3) If applicable, certification of human subject study training.

(4) One paragraph outlining area of emphasis and proposed course of study.

(5) Signature of ACOS/Research.

Note: *Letters of Intent are required for Rehabilitation Research and Development Merit Review. This is a single exception. Future studies submitted through merit review will require a letter of intent preceding submission.*

c. Notification and final proposals should be mailed to:

Rehabilitation Research and Development Service
Department of Veterans Affairs (122P)
810 Vermont Avenue, NW
Washington, DC 20420

Federal Express packages should be sent to:
Rehabilitation Research and Development Service
Department of Veterans Affairs (122P)

1400 “I” Street, NW; Suite 700
Washington, DC 20005
202-408-3670

5. Review: Proposals received in response to this announcement will undergo scientific review April 2001. Proposals receiving the most meritorious scores are expected to begin funding in the fourth quarter of FY2001.

6. Inquiries: For further information about this solicitation, contact Dr. David Wolff, Special Assistant, Rehab R&D at 202-408-3686.

John R. Feussner, M.D., M.P.H.
Chief Research and Development Officer

DISTRIBUTION: CO: E-mailed 1/25/2001
FLD: VISN, MA, DO, OC, OCRO, and 200 - FAX 1/25/2001